

## Appendix G Preliminary Design Layouts

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
HCL  
BULBUL GANGLY  
LIEM NGUYEN  
CALCULATED-  
DESIGNED BY  
CHECKED BY  
BRUCE A. SCHMITH  
CONSULTANT FUNCTIONAL SUPERVISOR

NOTES:

1. FOR COMPLETE RIGHT-OF-WAY AND ACCURATE ACCESS DATA, SEE RIGHT-OF-WAY RECORD MAPS AT DISTRICT OFFICE
2. REFER TO THE TITLE SHEET FOR SURVEY CONTROL NOTES.

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Oran   | 74    | 1.0/3.0                  | 11        | 200          |

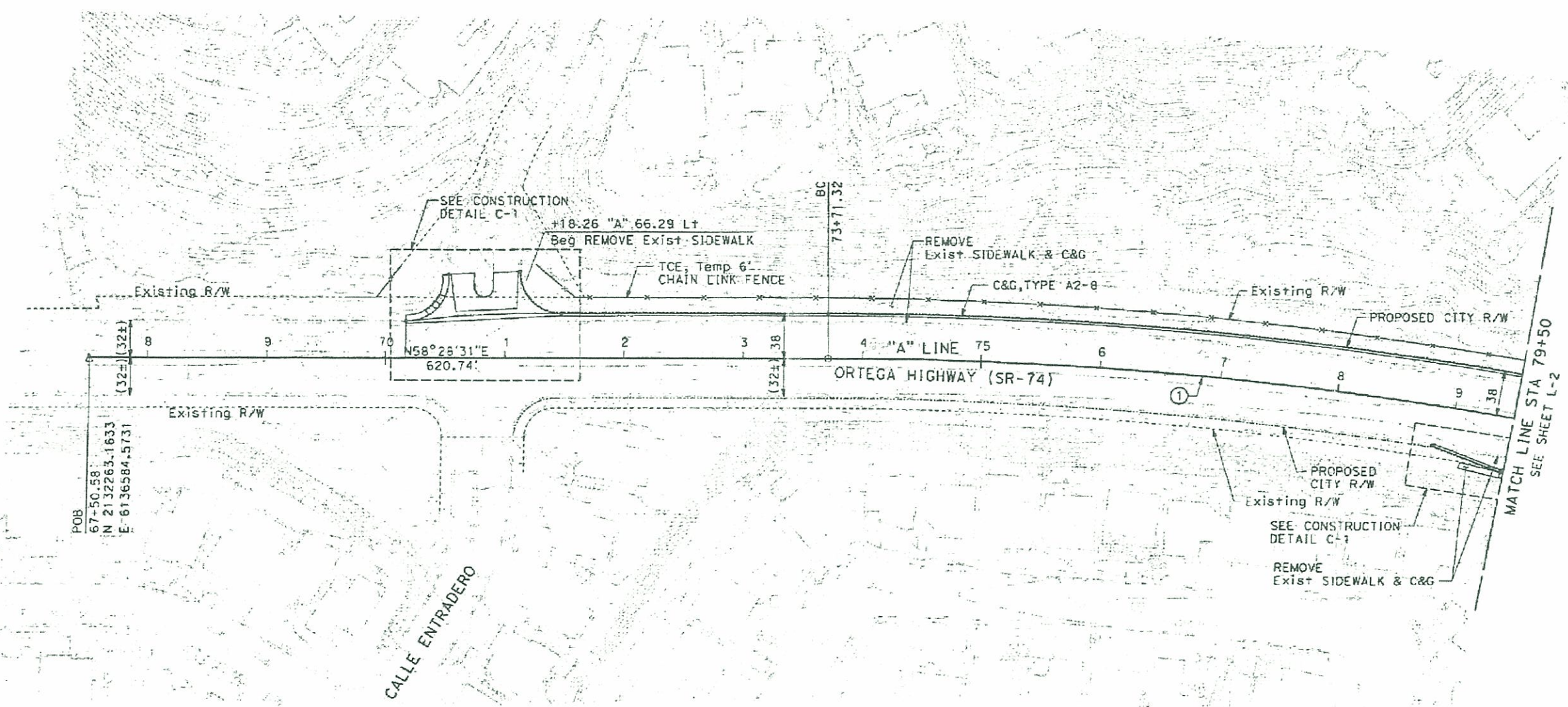
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

**HDR** HDR Engineering, Inc.  
3230 El Comino Real, Suite 200  
Irvine, CA 92602

REGISTERED PROFESSIONAL ENGINEER  
BRUCE A. SCHMITH  
No. C 65551  
Exp. 9-30-07  
CIVIL  
STATE OF CALIFORNIA



| CURVE DATA |         |              |        |        |
|------------|---------|--------------|--------|--------|
| NO.        | R       | Δ            | T      | L      |
| ①          | 3350.00 | 15°44'42.76" | 463.22 | 920.60 |

ALL DIMENSIONS ARE IN FEET  
UNLESS OTHERWISE SHOWN

**ALTERNATIVE 1**

SCALE: 1" = 50'

L-1

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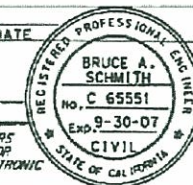


| Dist | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>NO. | TOTAL<br>SHEETS |
|------|--------|-------|-----------------------------|--------------|-----------------|
| 12   | Ora    | 74    | 1.0/3.0                     | 13           | 200             |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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COPIES OF THIS PLAN SHEET.

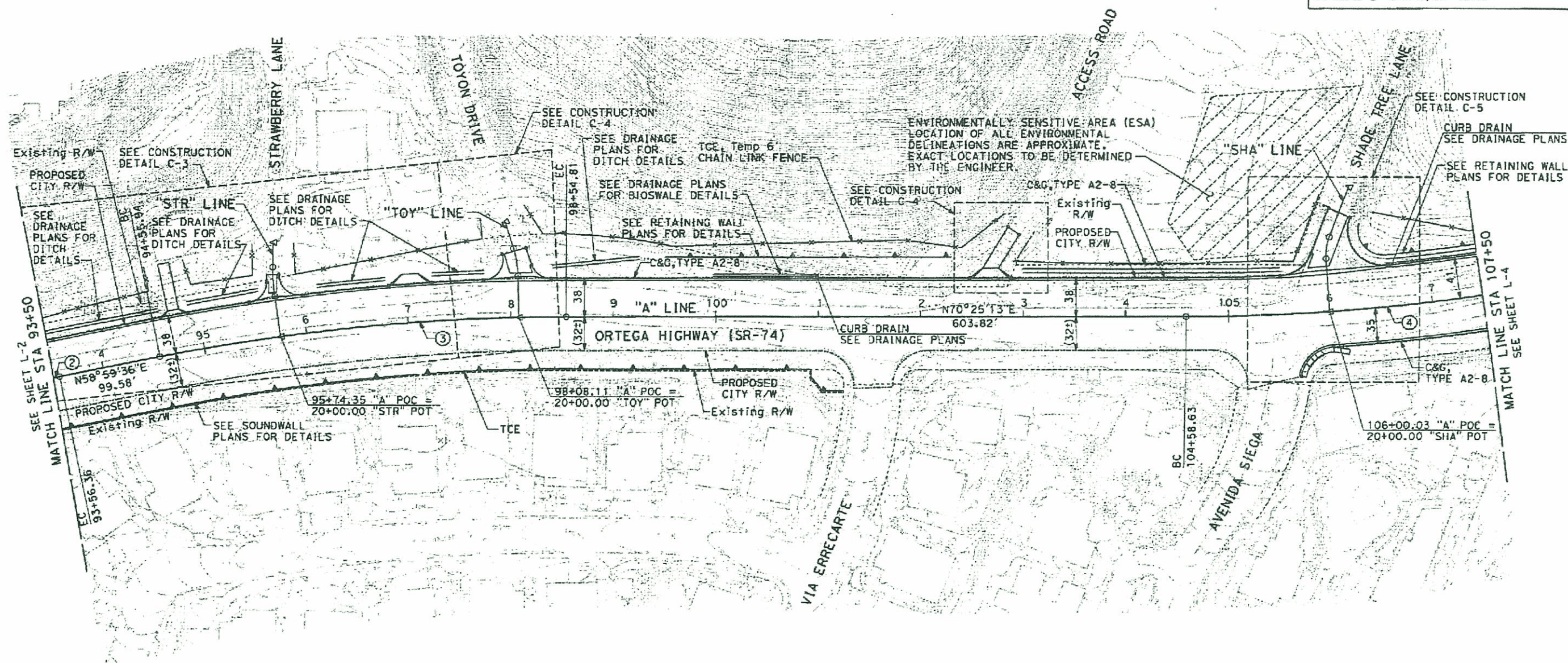


HDF

HDR Engineering, Inc.  
3230 El Camino Real, Suite 200  
Irvine, CA 92602

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|------------|---------|--------------|--------|--------|
| NO.        | R       | $\Delta$     | T      | L      |
| ②          | 1900.00 | 15°13'37.47" | 253.97 | 504.95 |
| ③          | 2000.00 | 11°25'36.68" | 200.10 | 398.87 |
| ④          | 2000.00 | 17°21'33.05" | 305.31 | 605.95 |

ALL DIMENSIONS ARE IN FEET  
UNLESS OTHERWISE SHOWN

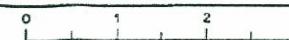
## ALTERNATIVE 1

SCALE: 1" = 50

L-3

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE  
IS IN INCHES



|                                  |
|----------------------------------|
| USERNAME => USER                 |
| DGN FILE => ... \c086904ea03.dgn |

|    |       |
|----|-------|
| CU | 00000 |
|----|-------|

|           |
|-----------|
| EA 086904 |
|-----------|

|               |                             |
|---------------|-----------------------------|
| LAST REVISION | DATE PLOTTED => 7/12/2007   |
| 00-00-00      | TIME PLOTTED => 10:52:10 AM |



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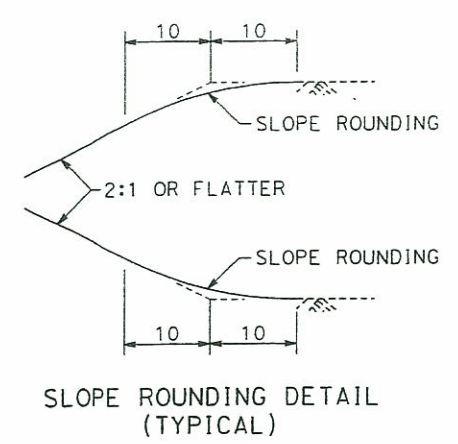






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STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
CONSULTANT FUNCTIONAL SUPERVISOR  
BRUCE A. SCHMITH  
CALCULATED BY  
DESIGNED BY  
CHECKED BY  
LTEM NGUYEN  
BULBUL GANGULY  
REVISED BY  
HCL  
DATE  
REVISED

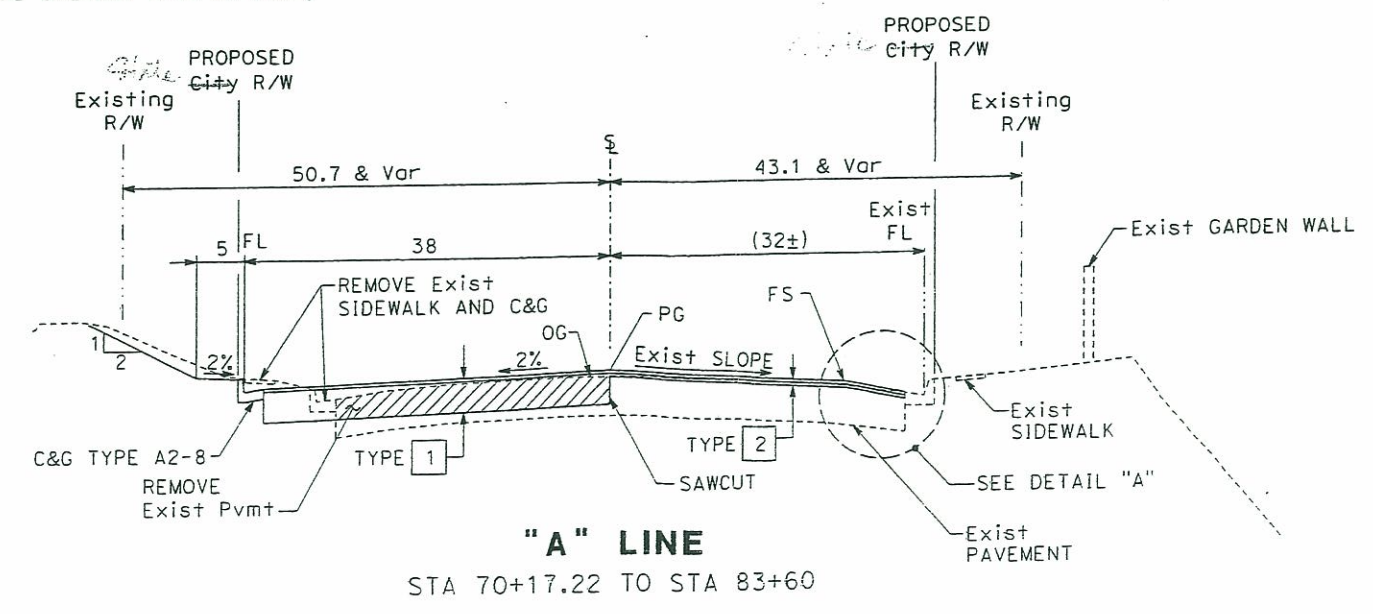
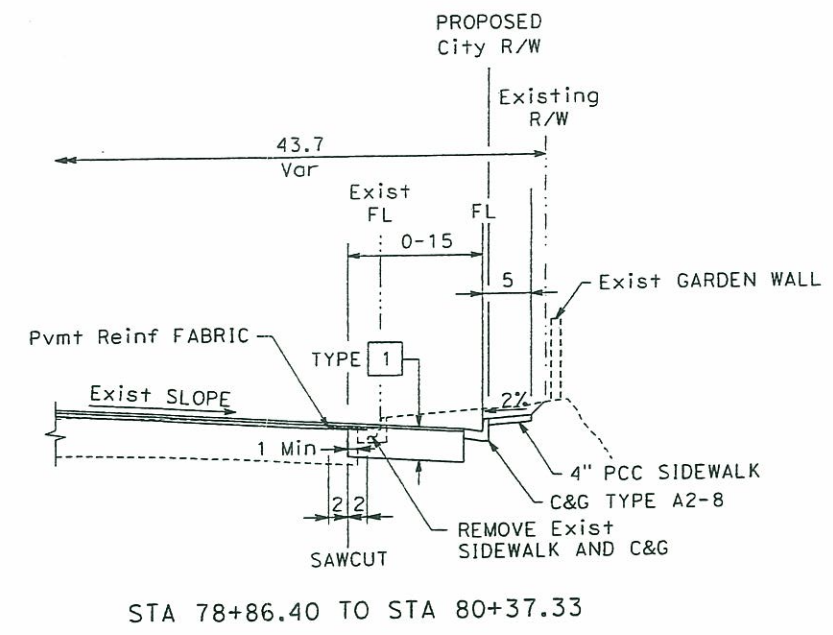
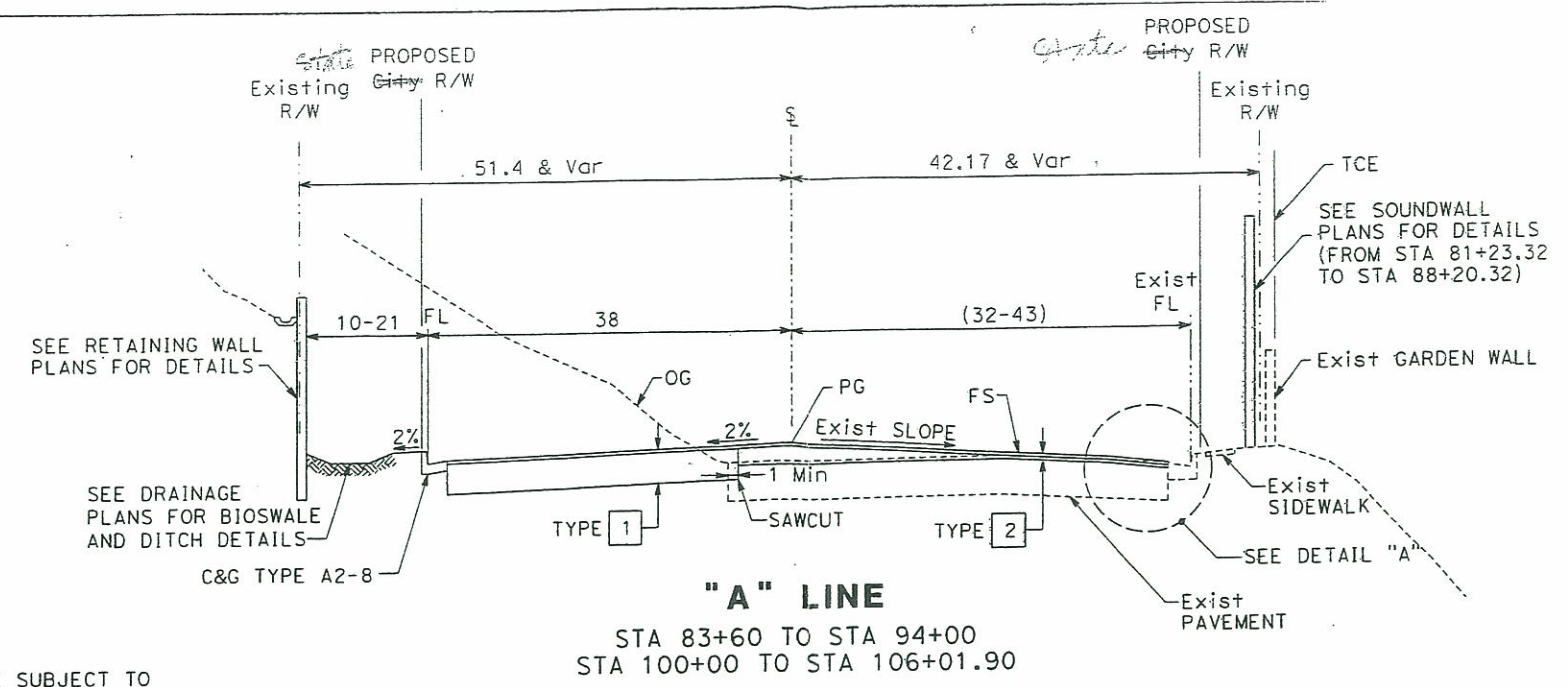


NOTES:

1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR LOCATIONS OF CURB AND GUTTER, DIKE AND MBGR, SEE LAYOUT AND SUMMARY OF QUANTITIES SHEETS.
4. FOR VARIATIONS IN TYPICAL CROSS SECTIONS, REFER TO LAYOUT, CONSTRUCTION DETAILS, PAVEMENT CONSTRUCTION AND REMOVAL AND PAVEMENT DELINEATION PLANS.
5. CURB AND GUTTER, DRIVEWAY, AND DIKE SHOULD BE PLACED ON NATIVE SUBGRADE MOISTURE CONDITIONED TO A MINIMUM OF 3% OVER OPTIMUM MOISTURE CONTENT AND COMPACTED TO 90% COMPACTION.
6. CONVENTIONAL OVERLAY IS TO BE USED INSTEAD OF RAC OVERLAY WITHIN 100 FEET IN ALL DIRECTIONS OF THE ANTONIO/LA PATA AND ORTEGA HIGHWAY INTERSECTION.
7. CLEAN AND FILL ALL EXPOSED CRACKS WIDER THAN 1/8".
8. THE JOINTS BETWEEN THE EXISTING PAVEMENT AND THE NEW PAVEMENT SHALL BE SEALED. A LAYER OF PRIME COAT IS TO BE APPLIED BETWEEN ALL BONDED AND UNBONDED LAYERS. A LAYER OF THICK COAT SHALL BE APPLIED TO ALL VERTICAL CUT FACES AND BETWEEN SUBSEQUENT AC LIFTS.
9. COLD MILL NORTHBOUND LANES OF LA PATA FROM ORTEGA HIGHWAY TO 200 SOUTHERLY, 0.35 BELOW PRESENT ELEVATIONS AND OVERLAY 0.35 AC BASE, TYPE III B3-PG 64-10.

LEGEND:

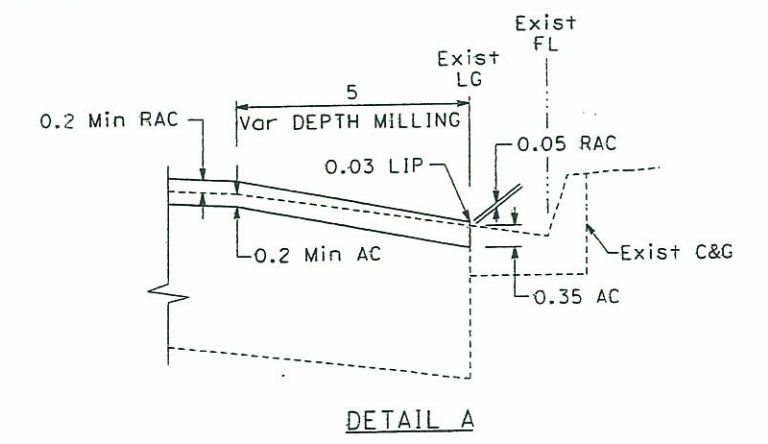
- EXISTING PAVEMENT
- NEW PAVEMENT



DESIGN DESIGNATION (SR-74)

2005 ADT = 24,000 D=52%  
2030 ADT = 42,000 T=8.0%  
DHV = 3,390 V=45 MPH  
T<sub>120</sub> = 13  
ESAL = 21,800,000

| STRUCTURAL SECTIONS |   |
|---------------------|---|
| TYPE 1              | 0.2 Min RUBBERIZED ASPHALT CONCRETE (RAC), TYPE G<br>1.55 AC BASE, TYPE A, 3/4" MAX   |
| TYPE 2              | 0.2 Min RAC, TYPE G<br>0.2 Min MILL AND AC BASE, TYPE A, 3/4" MAX                     |
| TYPE 3              | CLEAN SURFACE AND OVERLAY<br>0.2 Min ARHM, TYPE GG-B(3/4") - PG 64-16                 |
| TYPE 4              | 0.2 Min ARHM, TYPE GG-B(3/4") - PG 64-16<br>0.9 AC BASE, TYPE III B3-PG 64-10         |
| TYPE 5              | 0.2 Min AC SURFACE, TYPE GG-B (3/4") - PG 64-16<br>1.05 AC BASE, TYPE III B3-PG 64-10 |
| TYPE 6              | 1.75 AC TYPE A, 3/4" MAX  |



ALL DIMENSIONS ARE IN FEET  
UNLESS OTHERWISE SHOWN  
**TYPICAL CROSS SECTIONS**  
NO SCALE

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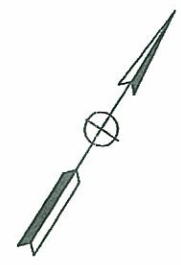


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NOTES:

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- REFER TO THE TITLE SHEET FOR SURVEY CONTROL NOTES.



| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 74    | 1.08/1.94                |           |              |

REGISTERED CIVIL ENGINEER DATE

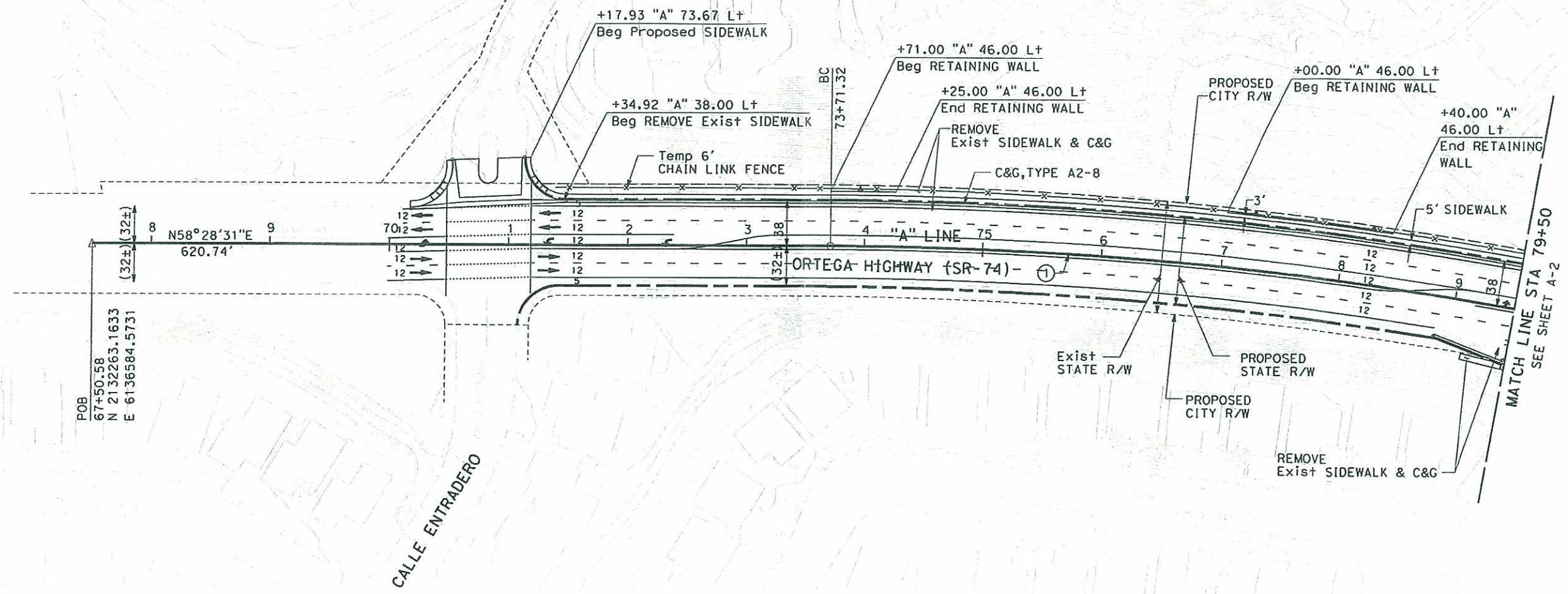
REGISTERED PROFESSIONAL ENGINEER  
LIEM ANH NGUYEN  
No. C 70728  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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HDR

HDR Engineering, Inc.  
3230 El Camino Real, Suite 200  
Irvine, CA 92602



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|------------|---------|--------------|--------|--------|
| NO.        | R       | Δ            | T      | L      |
| ①          | 3350.00 | 15°44'42.76" | 463.22 | 920.60 |

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UNLESS OTHERWISE SHOWN

**ALTERNATIVE 2**

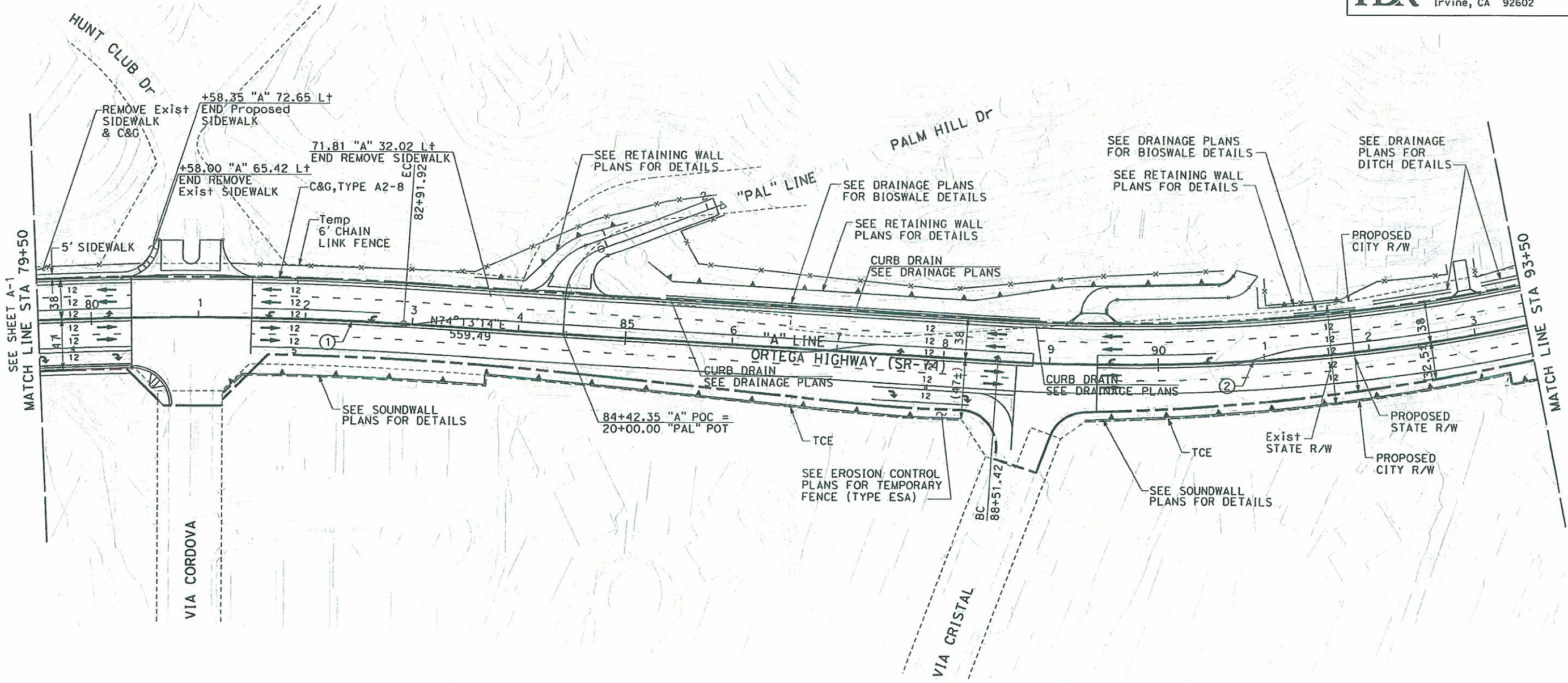
SCALE: 1" = 50'

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| ②          | 1900.00 | 15°13'37.47" | 253.97 | 504.95 |

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**ALTERNATIVE 2**  
SCALE: 1" = 50

Dist

COUNTY

ROUTE

POST MILES  
TOTAL PROJECT

SHEET  
No.

TOTAL  
SHEETS

12

Ora

74

1.08/1.94

REGISTERED CIVIL ENGINEER

DATE

PLANS APPROVAL DATE

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3230 El Camino Real, Suite 200  
Irvine, CA 92602

REGISTERED PROFESSIONAL ENGINEER

Liem Anh Nguyen

No. C 70728

Exp. 6-30-09

CIVIL

STATE OF CALIFORNIA

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NOTES:

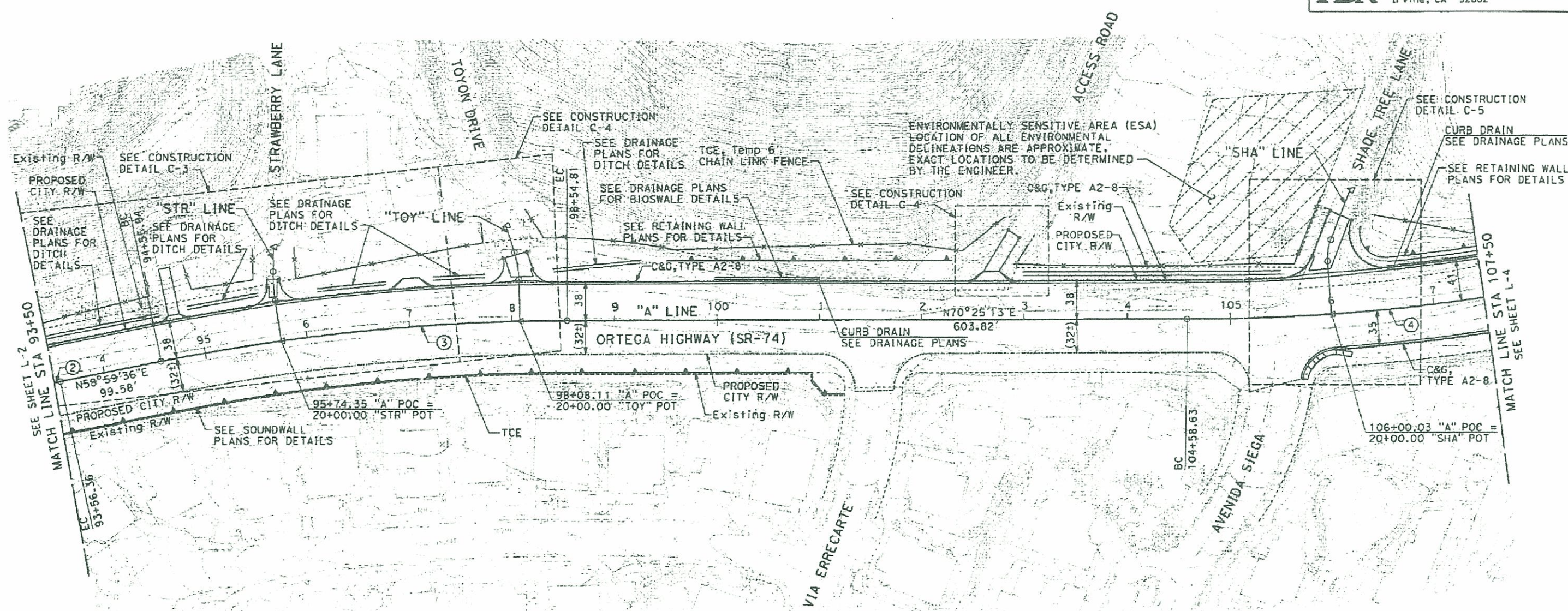
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|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
| 12   | Ora    | 74    | 1.0/3.0                  | 13        | 200          |

REGISTERED CIVIL ENGINEER DATE  
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REGISTERED PROFESSIONAL ENGINEER  
BRUCE A. SCHMITH  
No. C 65551  
Exp. 9-30-07  
CIVIL  
STATE OF CALIFORNIA



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**ALTERNATIVE 2**

SCALE: 1" = 50'



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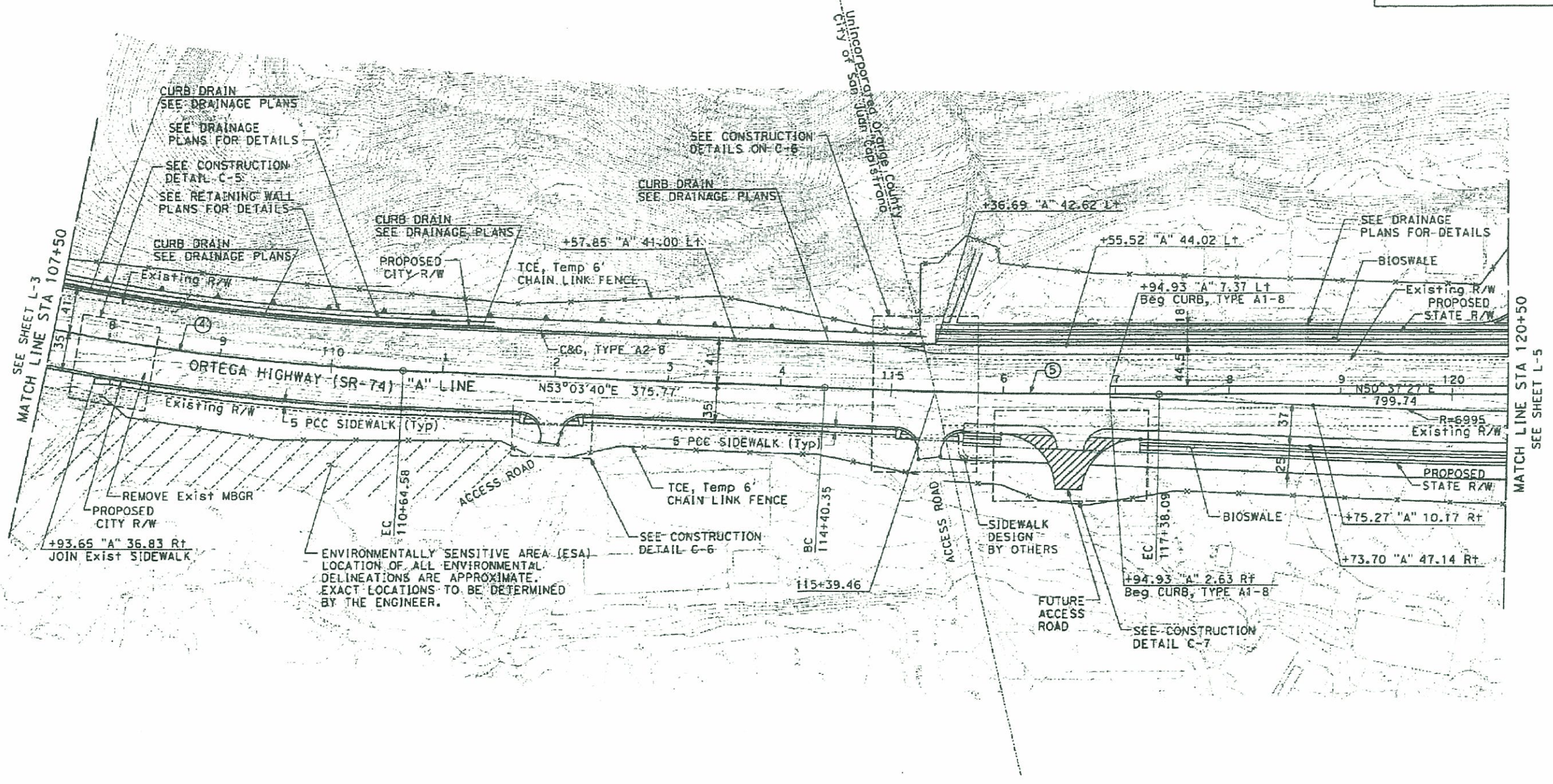
Dist12COUNTYOranROUTE74POST MILESTOTAL PROJECT1.0/3.0SHEET No.14TOTAL SHEETS200

REGISTERED CIVIL ENGINEER DATE  
BRUCE A. SCHMITH  
No. C 65551  
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CIVIL  
STATE OF CALIFORNIA

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| ④          | 2000.00 | 17°21'33.05" | 305.31 | 605.95 |
| ⑤          | 7000.00 | 2°26'13.36"  | 148.89 | 297.74 |

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**ALTERNATIVE 2**  
SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR  
BRUCE A. SCHMITH

CALCULATED-DESIGNED BY  
BULBUL GANGULY

CHECKED BY  
LIEM NGUYEN

REVISOR  
HCL

DATE REVISED



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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
Caltrans

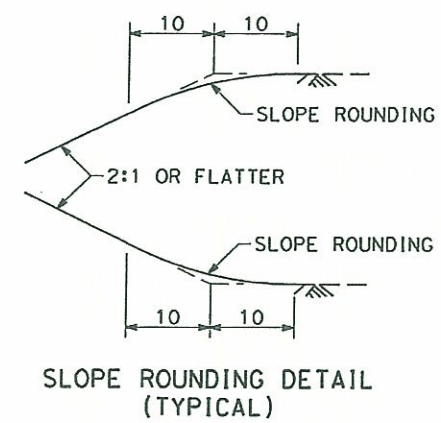
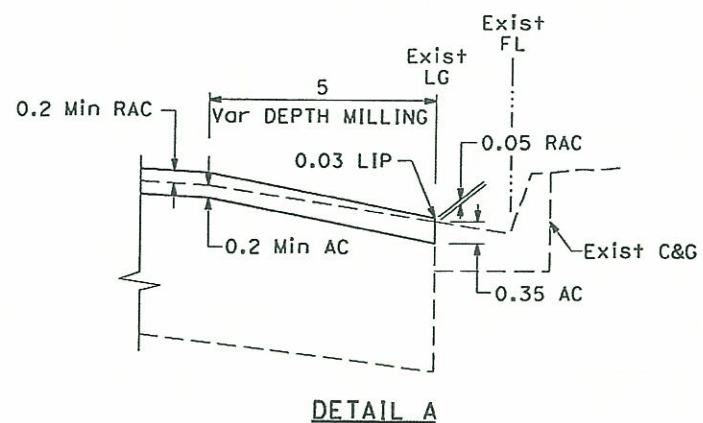
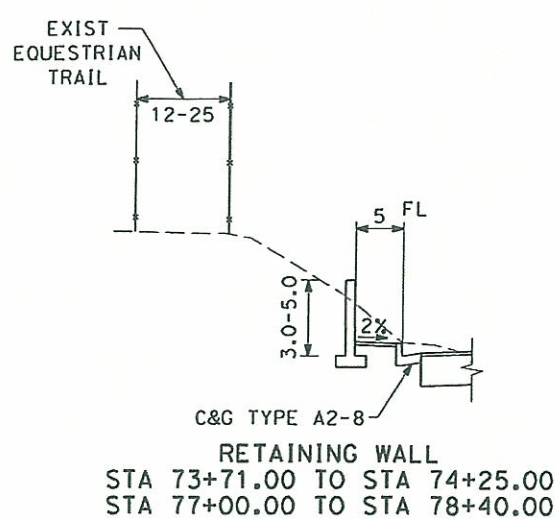
CONSULTANT FUNCTIONAL SUPERVISOR  
LAN SAADATNEJADI

CALCULATED-DESIGNED BY  
CHECKED BY

BULBUL GANGULY  
LIEM NGUYEN

REVISED BY  
DATE REVISED

HCL



DESIGN DESIGNATION (SR-74)

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2030 ADT = 42,000 T=8.0%  
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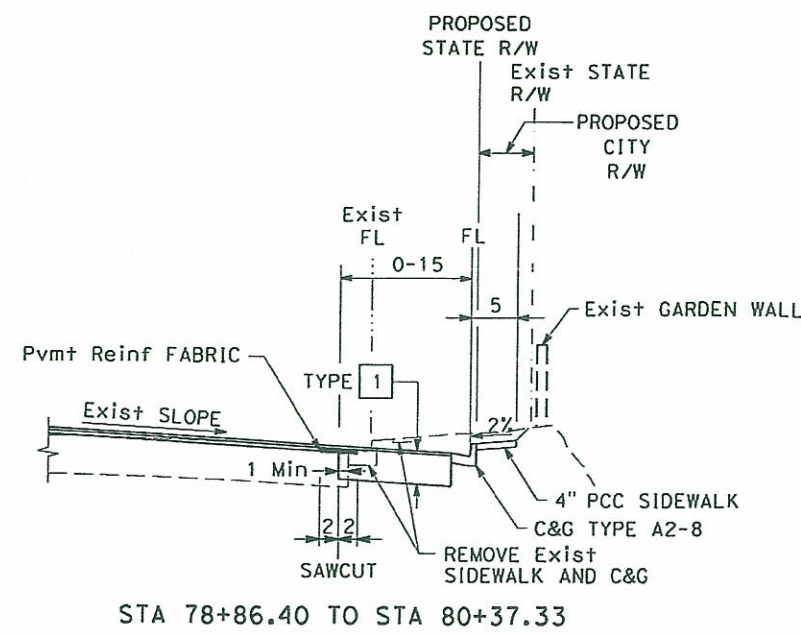
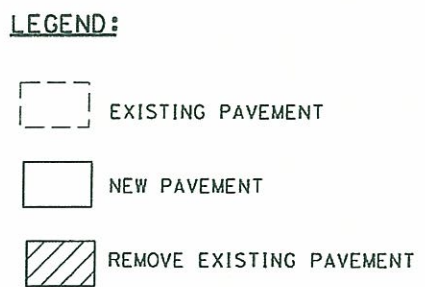
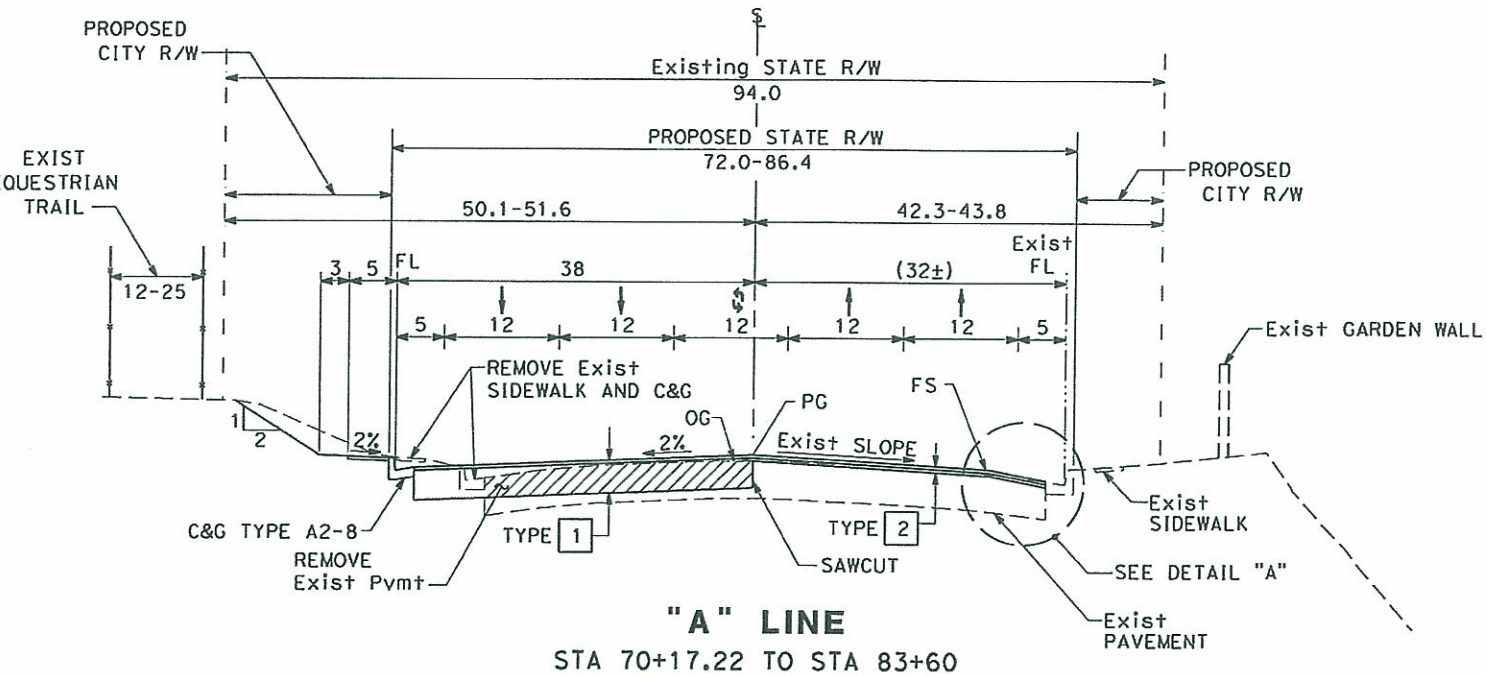
| STRUCTURAL SECTIONS |   |
|---------------------|---|
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NOTES:

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**ALTERNATIVE 2**  
**TYPICAL CROSS SECTIONS**  
NO SCALE





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